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EXAMINER

MARTINEZ, DAVID E

ART UNIT	PAPER NUMBER
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2181

DATE MAILED: 11/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/723,347

Applicant(s)

BOGIN ET AL.

Examiner

David E. Martinez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 October 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-28 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**


- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 8/1/06.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

  
FRITZ FLEMING  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100

**DETAILED ACTION*****Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/25/06 has been entered.

***Claim Objections***

Claim 1 is objected to because of the following informalities: There seems to be a typo in line 1, the term "In a controller of a computing device, computing device comprising..." appears to be missing a "the" after the comma. Also, in line 2, the term "...system memory and a codec, a method comprising:" appears to be missing a transitional statement describing the "a method" being implemented by either the "a controller" or the "a computing device" recited in line 1. Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 25-26 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

With regards to claim 25, the term "A machine readable medium comprising a plurality of instructions that in response to being executed result in a computing device..." renders the claim non-statutory. The machine readable medium, which according to the specification (3<sup>rd</sup> paragraph into the detailed description) appears to encompass electrical, optical, acoustical, and other forms of wireless transmission carriers signals (e.g. carrier waves, infrared signals,

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digital signals, etc.) among others, which are not concrete and thus directed to non-statutory subject matter. A claim to a proper carrier (i.e. a computer readable medium and not a signal) encoded with functional descriptive material that can function with a computer to effect a useful, concrete and tangible result (e.g. running an assembly line or executing a stock transaction) satisfies the practical application test. The carrier must be limited to a physical structure, not a signal which permits the functionality to be realized within a computer. Due to the above reasoning, the claimed invention does not fall within at least one of the four categories of patent eligible subject matter recited in 35 U.S.C. 101 (process, machine, manufacture, or composition of matter). Neither one of the above types of "computer readable medium" embodiments shown in the specification fall within any of the four categories of patent eligible subject matter. They are only directed to non-statutory subject matter.

Claim 26 suffers from the same deficiencies as claim 25 and thus is rejected under the same rationale.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 3-7, 9-13, 16, 19, 20, 25, 27 and 28, are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,792,481 to Hoang et al. (hereinafter Hoang) in view of US Patent No. 6,418,489 to Mason et al. (hereinafter Mason).

1. With regards to claim 1, Hoang teaches in a controller [fig 1 element 20, details shown in fig 2] of a computing device [fig 1 system 10, column 2 lines 19-38], computing device

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comprising a system memory [fig 1 element 16] and a codec [fig 1 element 32], a method comprising

reading data from a buffer [fig 1 element 16] of the system memory [fig 1 element 16] via a first interface of the controller [fig 2 element 22, column 3 lines 28-39],

transferring the data to the codec via a second interface of the controller [fig 2 element 26, column 3 lines 28-39],

tracking a position in the buffer from which the controller has read the data [fig 2 element 78, column 3 lines 29-32, column 5 lines 45-49],

Hoang teaches writing a value to a direct memory access position-in-buffer (DPIB) structure [fig 2 elements 58 and 78, column 3 lines 21-24, column 4 lines 29-32. Elements 58 and 78 are address pointers (pointers being a 'position-in-buffer structure') storing the memory address value of buffer data] located in the controller (figs 1, 2 - element 20). Hoang teaches all of the above limitations except for writing a value to a direct memory access position-in-buffer (DPIB) structure located in the system memory via the first interface to indicate the position in the buffer. However, Mason teaches a controller that writes values to the system memory via an interface instead of storing them in internal registers to reduce the amount of internal hardware in the controller and improve efficiency and overall performance [column 2 line 48 to column 3 line 3, column 14 lines 19-31].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of both Hoang and Mason to write a value to a direct memory access position-in-buffer (DPIB) structure located in the system memory via the first interface to indicate the position in the buffer to reduce the amount of internal hardware in the controller and improve efficiency and overall performance.

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2. With regards to claim 3, Hoang teaches the method of claim 1 further comprising tracking progress of transferring the data to the codec via the second interface [column 3 lines 29-50].
3. With regards to claim 4, Hoang teaches the method of claim 1 wherein reading the data from the buffer comprises reading the data per a buffer descriptor list that defines the buffer [fig 2 elements 50, 52, 70, 72 column 3 line 56 to column 4 line 23].
4. With regards to claim 5, Hoang teaches the method of claim 4 wherein reading the data from the buffer further comprises returning to a start of the buffer in response to reaching an end of the buffer [column 4 lines 24-35].
5. With regards to claim 6, Hoang teaches the method of claim 1 further comprises, prior to writing the value to system memory, determining to update the value in the system memory based upon the data transferred via the second interface [column 4 lines 29-32].
6. With regards to claim 7, Hoang teaches in a controller [fig 1 element 20, details shown in fig 2] of a computing device [fig 1 system 10, column 2 lines 19-38], the computing device comprising a system memory [fig 1 element 16] and a codec [fig 1 element 32], a method comprising  
receiving data from the codec [fig 1 element 32] via a first interface of the controller [figs 1, 2 element 28, column 2 lines 39-49],  
writing the data to a buffer of the system memory via a second interface [fig 2 element 22 connected to bus element 11] of the controller [figs 1 element 16, column 2 lines 39-49],  
tracking a position in the buffer to which the controller has written the data [column 3 lines 29-32],  
Hoang teaches storing a value in an register to indicate the position in the buffer [fig 2 elements 58 and 78, column 3 lines 21-24, column 4 lines 29-32]. Hoang teaches all of the

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above limitations except for writing a value to the system memory via the second interface to indicate the position in the buffer. However, Mason teaches a controller that writes values to the system memory via an interface instead of storing them in internal registers to reduce the amount of internal hardware in the controller and improve efficiency and overall performance [column 2 line 48 to column 3 line 3, column 14 lines 19-31].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of both Hoang and Mason to write a value to the system memory via the second interface to indicate the position in the buffer to reduce the amount of internal hardware in the controller and improve efficiency and overall performance.

7. With regards to claim 9, Hoang teaches the method of claim 7 further comprising tracking progress of receiving the data from the codec via the first interface [column 4 line 47 to column 5 line 5].

8. With regards to claim 10, Hoang teaches the method of claim 7 further comprising wherein writing the data to the buffer [column 4 line 47 to column 5 line 5] comprises writing the data per a buffer descriptor list that defines the buffer [fig 2 elements 50, 52, 70, 72 column 3 line 56 to column 4 line 23].

9. With regards to claim 11, Hoang teaches the method of claim 10 further comprising wherein writing the data to the buffer further comprises returning to a start of the buffer in response to reaching an end of the buffer [column 4 lines 24-35].

10. With regards to claim 12, Hoang teaches the method of claim 7 further comprising determining, prior to writing the value to system memory, to update the value in system memory based upon the data received via the first interface [column 4 lines 29-32].

11. With regards to claim 13, Hoang teaches a system [fig 1] comprising  
a processor [fig 1 element 12],

a system memory [fig 1 element 16] comprising a buffer [fig 1 element 16] and a buffer position, that indicates a position in the buffer [the combination of Hoang and Mason for the same reasons as those set forth under the claim 1 and 7 rejection above],

an audio controller [fig 1 element 20] coupled to the system memory [fig 1 element 16] via a first bus [fig 1 element 11], and

a codec [fig 1 element 32] coupled to the audio controller [fig 1 element 20] via a second bus [fig 1 element 20 has the buffers and codec interfaces connected over a bus to element 32], wherein

the audio controller [fig 1 element 20] transfers data between the buffer [fig 1 element 16] and the codec [fig 1 element 32] via the first bus [fig 1 element 11] and the second bus [fig 1 element 20 has the buffers and codec interfaces connected over a bus to element 32] and updates the buffer position via the first bus to indicate a position in the buffer associated with the audio controller transferring between the buffer and the audio controller [column 4 lines 24-35].

12. With regards to claim 16, it is of the same scope as claim 4 above and thus is rejected under the same rationale. Furthermore, it would have been obvious to store the descriptor list in system memory for the same reasons set forth under the claim 1 rejection above taught by the combination of Hoang and Mason.

13. With regards to claim 19, teaches a controller [fig 1 element 20, details shown in fig 2] comprising

a first direct memory access controller [fig 1 element 20, details shown in fig 2] to transfer data between a system memory [fig 1 element 16] and a codec [fig 1 element 32] via a first interface to the system memory [fig 2 element 22, column 3 lines 28-39] and a second interface to the codec [fig 2 element 26, column 3 lines 28-39], and



a position controller [fig 2 elements 56, 76] to update a position value in a direct memory access position-in-buffer (DPIB) structure [fig 2 elements 58 and 78, column 3 lines 21-24, column 4 lines 24-35] indicating progress of the first direct memory access controller transferring data between the system memory and the codec via the first interface [fig 2 elements 58 and 78, column 3 lines 21-24, column 4 lines 29-32. Elements 58 and 78 are address pointers (pointers being a 'position-in-buffer structure') storing the memory address value of buffer data] located in the controller (figs 1, 2 - element 20)]. Hoang teaches all of the above limitations except for the direct memory access position-in-buffer (DPIB) structure being located in the system memory. However, Mason teaches a controller that writes values to the system memory via an interface instead of storing them in internal registers to reduce the amount of internal hardware in the controller and improve efficiency and overall performance [column 2 line 48 to column 3 line 3, column 14 lines 19-31].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of both Hoang and Mason to have the direct memory access position-in-buffer (DPIB) structure be located in the system memory rather than inside the controller for the benefit of reducing the amount of internal hardware in the controller and improve efficiency and overall performance.

14. With regards to claim 20, it is of the same scope as claim 4 above, and thus is rejected under the same rationale. Furthermore, Hoang teaches the buffer descriptor list is included in a dma controller [fig 1 and 2 element 20] rather than inside the system memory. It would have been obvious to one of ordinary skill in the art at the time of the invention to have the buffer descriptor list in the system memory for the same reasons as those set forth in the claim 19 rejection above.

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15. With regards to claim 25, it is of the same scope as claim 13 above and thus is rejected under the same rationale.

16. With regards to claim 27, Hoang teaches the machine-readable medium of claim 25 wherein the plurality of instructions in response to being executed further result in the computing device

allocating the buffer in the system memory [allocating takes place when the controller (fig 1 element 20) is instructed to storing data in the system memory] and storing a buffer descriptor list in the system memory [same scope as a combination of claim 16 and 1 above thus rejected under the same rationale], and

configuring the audio controller to transfer the data per the buffer descriptor list [same scope as claim 16 and 1 above].

17. With regards to claim 28, Hoang teaches the machine-readable medium of claim 25 wherein the plurality of instructions in response to being executed further result in the computing device

allocating a position in buffer structure in the system memory [this is done when storing data in the memory buffer, the particular position must be allocated in order to be filled, ], and

configuring to update the position in buffer structure with the buffer position [same scope as in claim 1 above].

Claims 2, 8, 14, 17, 18, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,792,481 to Hoang et al. (hereinafter Hoang) in view of US Patent No. 6,418,489 to Mason et al. (hereinafter Mason) further in view of Applicant's Admitted Prior Art (hereinafter AAPA).

18. With regards to claim 2, Hoang teaches receiving the data via the first interface [fig 2 element 22, column 3 lines 28-39], but the combination of Hoang and Mason are silent as to

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wherein reading comprises isochronously receiving the data via the first interface. However, AAPA teaches using isochronous data transfers for the benefit of helping multimedia applications such as audio and video applications achieve high quality results [page 1, paragraph 1].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Hoang, Mason and AAPA to isochronously receive the data via the first interface for the benefit of helping multimedia applications such as audio and video applications achieve high quality results.

19. With regards to claim 8, Hoang teaches writing the data to the buffer comprises transferring the data toward the buffer via the second interface [column 2 lines 39-49, column 4 lines 24-35], but is silent as to the writing (a data transfer) being isochronous. However, isochronously transferring data is rejected under AAPA as in claim 2 using the same rationale.

20. With regards to claim 14, wherein the audio controller [fig 1 element 20] transfers the data across the first bus [fig 1 element 11] via a channel [fig 1 element 11 – a bus is a channel] and updates the buffer position via the channel [column 4 lines 24-35], but is silent as to the channel being isochronous. However, the use of an isochronous bus/channel transferring data is rejected under AAPA as shown in claim 2 above, using the same rationale.

21. With regards to claim 17, Hoang teaches wherein the audio controller [fig 1 element 20, details shown in fig 2] reads the data from the buffer via the first bus and transfers the data to the codec via the second bus [column 3 lines 28-39], but is silent as to the reading being done isochronously. However, isochronously reading (a data transfer) is rejected under AAPA as in claim 2 using the same rationale.

22. With regards to claim 18, Hoang teaches wherein the audio controller [fig 1 element 20, details shown in fig 2] receives the data from the codec via the second bus and writes the data

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to the buffer via the first bus [column 4 line 47 to column 5 line 5], but is silent as to the writing being done isochronously. However, isochronous writes (a data transfer) is rejected under AAPA as in claim 2 using the same rationale.

23. With regards to claim 23, Hoang teaches the first direct memory access controller [fig 1 element 20, details shown in fig 2] writes the data to the buffer [column 5 lines 1-5 and 45-46], but is silent as to the writing being isochronous. However, isochronous writes (a data transfer) is rejected under AAPA as in claim 2 using the same rationale.

24. With regards to claim 24, Hoang teaches the first direct memory access controller [fig 1 element 20, details shown in fig 2] reads the data from the buffer [column 3 lines 28-39, and column 5 lines 45-46], but is silent as to the reading being isochronous. However, isochronous reads (a data transfer) is rejected under AAPA as in claim 2 using the same rationale.

Claims 15, 21, 22 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent No. 6,792,481 to Hoang et al. (hereinafter Hoang) in view of US Patent No. 6,418,489 to Mason et al. (hereinafter Mason) further in view of US Patent No. 6,693,753 to Su et al. (hereinafter Su)

25. With regards to claim 15, Hoang teaches the system of claim 13 wherein the audio controller [fig 1 element 20] transfers the data across a link of the first bus [fig 1 element 11] but is silent as to updating a link position counter of the audio controller based upon the data transferred across the link. However, Su teaches using a link position counter in an interface between two communicating devices for the benefit of tracking the progress of the data transfer [column 7 lines 4-22].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Hoang, Mason and Su to update a link position counter of the audio

controller based on the data transferred across the link for the benefit of tracking the progress of the data transfer.

26. With regards to claim 21, Hoang teaches the controller of claim 19 having the first direct memory access controller [figs 1, 2 - element 20] transfer data across the second interface [fig 2 element 22 connected to bus element 11], but is silent as to the controller of claim 19 further comprises a link counter to maintain a count indicating progress of the data transfer across the second interface. However, Su teaches using a link position counter in an interface between two communicating devices for the benefit of tracking the progress of the data transfer [column 7 lines 4-22].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Hoang, Mason and Su to further comprise a link counter to maintain a count indicating progress of the first direct memory access controller in transferring the data across the second interface for the benefit of tracking the progress of the data transfer.

27. With regards to claim 22, Hoang teaches the controller of claim 19 having the first direct memory access controller [figs 1, 2 - element 20] transfer data across the first interface [fig 2 element 22 connected to bus element 11] but is silent as to the controller of claim 19 further comprises a buffer position counter to maintain a count indicating the progress of the data transfer across the first interface. However, Su teaches using a buffer position counter in an interface between two communicating devices for the benefit of tracking the progress of the data transfer [column 7 lines 4-22].

It would have been obvious to one of ordinary skill in the art at the time of the invention to combine the teachings of Hoang, Mason and Su to further comprise a buffer position counter to maintain a count indicating progress of the first direct memory access controller in

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transferring the data across the second interface for the benefit of tracking the progress of the data transfer.

28. With regards to claim 26, it is of the same scope as claim 15 above and thus is rejected under the same rationale.

### ***Response to Arguments***

Applicant's arguments filed 10/25/06 have been fully considered but they are not persuasive.

With regards to Applicant's arguments directed to claim 1 (remarks pages 9-10), Examiner respectfully disagrees. Hoang teaches writing a value to a direct memory access position-in-buffer (DPIB) structure [fig 2 elements 58 and 78, column 3 lines 21-24, column 4 lines 29-32. Elements 58 and 78 are address pointers (pointers being a 'position-in-buffer structure') storing the memory address value of buffer data] located in the controller rather than in the system memory but the combination of Hoang and Mason discloses how the storing of the direct memory access position-in-buffer (DPIB) structure disclosed by Hoang can be incorporated into system memory thus reducing the controller hardware.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, it was shown by the references that the combination of Hoang and Mason would lead to reducing the amount of internal hardware in the controller improving efficiency and overall performance [Mason column 2 line 48 to column 3 line 3, column 14 lines 19-31]. Not

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only is that benefit taught be Mason, but also one of ordinary skill in the art at the time of the invention would have also seen that the Mason reference would have improved the Hoang DMA controller, by using context switching between tasks (processes), allowing the DMA controller to also handle more than one process at the same time and thus increasing overall throughput in the system. The differences are due to the different features that each DMA controller has and the modifying the DMA controller of Hoang would only provide the benefits of those particular features being borrowed from Mason. Furthermore, it was also shown by the references that the combination of Hoang, Mason and Su would lead to the benefit of being able to track the progress of a data transfer [Su reference, column 7 lines 4-22].

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

With respect to Applicant's arguments directed to the combination of Hoang and Mason with AAPA, Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

With regards to dependent claims 3-7, 9-13, 16, 19, 20, 25, 27 and 28, they stand rejected for the same reasons as those set forth above.

With regards to the 103 rejections directed to claims 2, 8, 14, 17, 18, 23, 24, and 15, 21, 22 and 26, they stand rejected for the same reasons as those set forth above.

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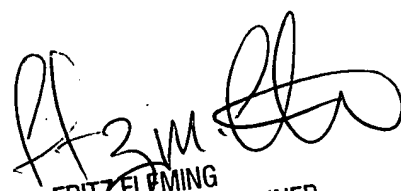
**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David E. Martinez whose telephone number is (571) 272-4152. The examiner can normally be reached on 8:30-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fritz M. Fleming can be reached on 571-272-4145. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DEM

  
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SUPERVISORY PATENT EXAMINER  
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11/21/2006